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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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QUALCOMM INCORPORATED
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EXAMINER

ABRISHAMKAR, KAVEH

ART UNIT PAPER NUMBER

2131

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,039	MAURO, ANTHONY	
	Examiner	Art Unit	
	Kaveh Abrishamkar	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6-9,14-17 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6-9, 14-17, and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 10, 2006 has been entered.
2. Claims 1,4,6-9, 14-17, and 22-25 are currently being considered.

Response to Arguments

3. Applicant's arguments filed July 10, 2006 have been fully considered but they are not persuasive for the following reasons:

The Applicant argues that the Cited Prior Art (CPA), Gersho et al. (U.S. Patent 6,233,550) and Udaya Bhaskar et al. (U.S. Patent 6,691,092) do not teach, "generating a state vector corresponding to the vocoder frames." This argument is not found persuasive. The Applicant states that the CPA does not teach a state vector corresponding to an inactive vocoder frame. However, the Examiner contends that the claims do not state that a state vector is generated for the inactive vocoder frames, but that "the state vector is incremented only for a generated active or transition frame."

The generating of a state vector limitation does not state for which vocoder frames the

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state vector is generated, so giving the claims the broadest reasonable interpretation, the state vector could be generated for any of the vocoder frames claimed in the preceding limitations. Therefore, it is asserted that the CPA does teach, "generating a state vector corresponding to the vocoder frames" as Udaya Bhaskar discloses generating state vectors for transient and active vocoder frames (column 11 line 66 – column 12 line 4). Therefore, it is asserted that the CPA does teach "generating a state vector corresponding to the vocoder frames" and the rejection is maintained below for the pending claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1,4,6-9,14-17, and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The final limitations in the independent claims states "generating a state vector corresponding to the vocoder frames." It is not clearly defined whether this state vector is generated for the inactive vocoder frames, the active vocoder frames, or the transition vocoder frames. For purposes of examination as given below, the Examiner will interpret that the state vector is generated for the active and transition frames.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,4,6-8,14-16, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersho et al. (U.S. Patent No. 6,233,550) in view of Udaya Bhaskar et al. (U.S. Patent No. 6,691,092).

Regarding claim 1, Gersho discloses:

A method of controlling discontinuous transmissions, comprising the steps of:

determining a voice activity level in a digitized audio signal (Figure 4A item 18, column 10 lines 38 – 41, column 13 lines 17 – 53);

generating a control signal based on the level of voice activity detected (column 10 lines 38 – 41, column 13 lines 17 – 53);

generating active vocoder frames at a predetermined rate in a transmitter if said control signal indicates a first level of speech activity (Figure 4A item 52, column 10 lines 42 – 53, column 13 lines 17 – 53);

generating inactive vocoder frames if said control signal indicates a second level of speech activity (Figure 4A item 50, column 10 lines 42 – 53, column 13 lines 17 – 53); and

generating transition frames if said control signal indicates a transition from said first level to said second level, said transition frames comprising background noise information (Figure 4A item 54, column 10 lines 42 – 53 , column 13 lines 17 – 53).

Gersho does not explicitly disclose a state vector which is incremented when at least one active or transition frame is generated. Udaya Bhaskar disclose state vectors representing both transient and steady state vectors (column 11 line 66 – column 12 line 13). The transient vectors represent the changes in the speech levels and other non-stationary events. The use of state vectors allows the tracking of abrupt variations in speech levels, and maintains the accuracy of the speech level. Gersho and Udaya Bhaskar are analogous arts in that both receive an speech/voice input and both pertain to voice activity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the state vectors to track the different types of speech in order to “to track the abrupt variations in speech levels during onsets and other non-stationary events, while maintaining the accuracy of the speech level during stationary conditions.”

Regarding claim 4, Gersho discloses:

A discontinuous transmission controller, comprising:

a vocoder for generating active vocoder frames from a digitized audio signal at a predetermined output rate if speech is present, for generating inactive vocoder frames during periods of speech inactivity, and for generating transition frames during

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transitions from speech activity to speech inactivity, said transition frames comprising background noise information (Figure 4A items 50, 52, 54, column 10 lines 38 – 53, column 13 lines 17 – 53).

Gersho does not explicitly disclose a state vector which is incremented when at least one active or transition frame is generated. Udaya Bhaskar disclose state vectors representing both transient and steady state vectors (column 11 line 66 – column 12 line 13). The transient vectors represent the changes in the speech levels and other non-stationary events. The use of state vectors allows the tracking of abrupt variations in speech levels, and maintains the accuracy of the speech level. Gersho and Udaya Bhaskar are analogous arts in that both receive an speech/voice input and both pertain to voice activity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the state vectors to track the different types of speech in order to “to track the abrupt variations in speech levels during onsets and other non-stationary events, while maintaining the accuracy of the speech level during stationary conditions.”

Regarding claim 8, Gersho discloses:

A method for controlling discontinuous transmissions, comprising:

receiving digitized audio signal (Figure 4A item 18, column 10 lines 38 – 41, column 13 lines 17 – 53);

determining a speech activity level in the received digitized audio signal (Figure 4A item 18, column 10 lines 38 – 41, column 13 lines 17 – 53);

generating a control signal based on the determined speech activity level
(column 10 lines 38 – 41, column 13 lines 17 – 53);

generating active vocoder frames in a transmitter if said control signal indicates a transition between said active speech activity and inactive speech activity (Figure 4A item 52, column 10 lines 42 – 53, column 13 lines 17 – 53);

generating transition frames in the transmitter if said control signal indicates a transition between said active speech activity and inactive speech activity (Figure 4A item 54, column 10 lines 42 – 53 , column 13 lines 17 – 53); and

generating no vocoder frame in the transmitter if said control signal indicates inactive speech activity (Figure 4A item 50, column 10 lines 42 – 53, column 13 lines 17 – 53).

Gersho does not explicitly disclose a state vector which is incremented when at least one active or transition frame is generated. Udaya Bhaskar disclose state vectors representing both transient and steady state vectors, but does not provide a state vector for an inactive vocoder frame (column 11 line 66 – column 12 line 13). The transient vectors represent the changes in the speech levels and other non-stationary events. The use of state vectors allows the tracking of abrupt variations in speech levels, and maintains the accuracy of the speech level. Gersho and Udaya Bhaskar are analogous arts in that both receive an speech/voice input and both pertain to voice activity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the state vectors to track the different types of speech in order to “to track

the abrupt variations in speech levels during onsets and other non-stationary events, while maintaining the accuracy of the speech level during stationary conditions.”

6. Claims 6-7 are analogous to claim 1 in subject matter and limitations and therefore, are rejected following the same reasoning.

7. Claim 16 is an apparatus claim analogous to the method claim of claim 8, and therefore, is rejected following the same reasoning.

8. Claims 22-23 are computer-readable medium claims analogous to the method claim presented by claim 1, and therefore, are rejected following the same reasoning.

9. Claim 24 is a computer-readable medium claim analogous to the method claim of claim 8, and therefore, is rejected following the same reasoning.

10. Claims 9, 17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersho et al. (U.S. Patent No. 6,233,550) in view of Udaya Bhaskar et al. (U.S. Patent No. 6,691,092), as applied to claims 5,8,16 and 24 above, and further in view of Duke et al. (U.S. Patent 6,272,633).

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Claim 9 is rejected as applied above in rejecting claim 8. The system of Gersho and Udaya Bhaskar does not explicitly disclose encrypting the generated active and transition vocoder frames. Duke discloses a system (Figure 2) with an encryption and decryption module for encrypting and decrypting digitized voice. The voice frames are placed in a buffer (queue) and are processed in turn by the encryption/decryption module (column 2 lines 28 – 48). In one embodiment discussed by Duke, the voice frames are encrypted and later decrypted by codebook algorithms (column 2 lines 28 – 48). The state vector which is provided to the encryption/decryption modules is disabled when the buffer (queue) is in an underflow condition. The disclosures of Gersho, Udaya Bhaskar and Duke are analogous arts in the respect that all deal with voice communication over a network. Gersho provides the voice activity detection, frame generation, while Duke provides the encryption/decryption functions. Duke states, “many users have begun to utilize digital networks for voice communications” and that “confidentiality is a primary concern” (column 1 lines 25 – 31). It would have been obvious to one of ordinary skill in the art to use the encryption/decryption modules that Duke uses to secure voice communications in conjunction with the system of Gersho to provide confidentiality and security for the voice communications.

11. Claim 17 is an apparatus claim analogous to the method claim of claim 9, and therefore, is rejected following the same reasoning.

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12. Claim 25 is a computer-readable medium claim analogous to the method claim of claim 9, and therefore, is rejected following the same reasoning.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaveh Abrishamkar whose telephone number is 571-272-3786. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KA
09/22/2006

CHRISTOPHER REVAH
PRIMARY EXAMINER

cel 9/27/06